

*B* 40 *3.* A brush cutting blade as defined in claim 1 wherein multiple segments are provided symmetrically around the disk body, the segments deflected outwardly at a similar angle between 15 degrees and 50 degrees.

*A* 41 *4.* A brush cutting blade as defined in claim 3 wherein the segments are deflected to an angle of between 25 degrees and 45 degrees.

#### REMARKS - General

By the above amendment, Applicant has editorially amended the specification and rewritten all claims to define the invention more particularly and distinctly, so as to overcome the technical objections and to patentably define the invention over the prior art. Applicant has additionally presented the claims as allowed in US Patent 5,875,700, which are fully supported in the present Application.

#### The Objection To The Specification And The Claims Rejection Under § 112

In claim 21, the auxiliary cutting means are now clearly stated to be disposed below the disk and supported in P. 8.L.29, changed to read "...showing auxiliary axial cutting elements above the disk, while in practice the disk is mounted with the elements below the disk...", thereby correcting the ambiguity of original claim 1 as previously objected to. In this connection it may be also noted that in the specification, as originally submitted, on P. 16 under Mounting - Fig. 1, lines 22-24, the proper down-face mounting or extension of the auxiliary cutting elements is additionally referred to.

In claim 23, subject matter of previous claim 3, the phrase "centrally inclined", has

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been replaced by "radially inclined inward from trailing end to leading end", to correct the objected to lack of clarity.

In claim **24**, the subject matter of previous claim **5**, the question regarding "adjacent nested blades" has been clarified and the claim restructured appropriately.

In claim **26**, subject matter of original claim **7**, the structure of the separately mountable modular unit has been more clearly defined and finds support in the specification on p. 12, lines 34-35 and again on p. 15, line 33 and on p. 16, lines 1-10.

In claim **30**, subject matter of original claim **11**, the "substantial materials reserve" has been made more definite and finds support in the specification on p. 13, line 14-15 and further on drawing Fig. 4 at 13d and page 9 at 13d. The objection of "inferentially claimed cutting serrations", has also been redressed within the rewritten claim.

In claim **37**, subject matter of previous claim **19**, additional clarity related to "how a ramp calibrates cutting depth" has been provided by means of a structural relationship.

Rewritten claims **31-36** which largely correspond to original claims **12-20** and substantially parallel claims **21-30**, have also been amended to comply with the requirements under 35 U.S.C. 112, second paragraph, as advised by the examiner.

Accordingly, applicant submits that the specification and claims now comply with § 112 and therefore requests withdrawal of this objection.

**The Rejection Of Claims 1-7 And 10-20 Under 35 U.S.C. 102(b)**

All rejected claims have been rewritten as new claims to define the invention in a patentable manner over the cited art. In particular, both original independent claims 1 and 12 have been rewritten as new claims 21 and 31, respectively and are presented in now much narrowed scope, incorporating the limitations of previously dependent claims 4 and 15, plus additional elements. Independent claim 31 further incorporates the limitations of previously dependent claim 20.

All incorporated dependent claims have been deleted as separate claims.

Dependent claims 2-7, 10-11 and 13-19 have been rewritten as dependent claims 22-30 and 32-37, incorporating all the limitations of the base claims and further defining in a manner patentable over the prior art.

**Summary Of Physical Structures Recited In New Claims**

Independent claim 21 recites a directionally mountable and peripherally serrated disk with radially inwardly recessed and integrally formed auxiliary, axial cutting elements. All auxiliary cutting elements have a longitudinal orientation in relation to the cutting direction and all elements have even, unobstructed, bilateral structures. The axial extension of the auxiliary cutting elements with respect to the disk planar is substantial.

Independent claim 31 recites the invention in terms of base claim 21, but adds the element of a mounting means, to receive individually replaceable auxiliary cutting elements of a

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predetermined structure.

Dependent claim **22** includes the limitations of base claim **21** and further recites three or fewer auxiliary cutting means symmetrically, equiangularly and circularly disposed on the disk planar.

Dependent claim **23** includes the limitations of base claim **21** and further recites an unsevered angular juncture of the auxiliary cutting means, radially inclined from trailing end to leading end.

Dependent claim **24** includes all limitations of base claim **21** and further recites predetermined, radially outward positioned voids, corresponding to auxiliary cutting means.

Dependent claim **25** includes all limitations of base claim **21** and further recites substantial, semicircular, size differentiated, fore and aft stress relief and debris clearance apertures.

Dependent claim **26** includes all limitations of base claim **21** and further recites auxiliary cutting elements with a connecting planar structure between individual auxiliary cutting elements, whereby they are individually mountable as a separate unit or module onto disks.

Dependent claim **27** includes all limitations of base claim **21** and further recites auxiliary cutting elements with semielliptical structures of a depressed minor axis with serrations in their maximal axial extension, interfacing and parallel to an imaginary straight line.

Dependent claim **28** includes all limitations of base claim **21** and further recites auxiliary cutting means with predetermined rectangular structure, straight, forward cutting

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edge and a serrated, axial cutting edge.

Dependent claim **29** includes all limitations of base claim **21** and further recites auxiliary cutting means with unserrated, rectangular structures with a single forward cutting edge.

Dependent claim **30** includes all limitations of base claim **21** and further recites a substantial materials reserve at the rearward portion, behind the serrations.

**Dependent Claims 32-36 Largely Parallel Dependent Claims 22-26:**

Dependent claim **32** includes all limitations of base claim **31** and further recites auxiliary cutting means symmetrically, equiangularly and circularly disposed.

Dependent claim **33** includes all limitations of base claim **31** and further recites unsevered angular juncture, radially inclined from trailing end to leading end.

Dependent claim **34** includes all limitations of base claim **31** and further recites predetermined, corresponding voids to the auxiliary cutting means, positioned radially outward of the unsevered junctures.

Dependent claim **35** has all limitations of base claim **31** and further recites substantial, predetermined, size differentiated fore and aft stress relief and debris clearing aperture.

Dependent claim **36** includes all limitations of base claim **31** and further recites auxiliary cutting means mountable as a separate unit, having a planar structural connection

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between individual axial cutting elements and further a mounting means.

Dependent claim 37 includes all limitations of base claim 31 and further recites individually replaceable cutting elements with special ramp structures, somewhat less prominent in axial extension than the outermost extended cutting edge structure of the cutting element.

**The Rejection Of Claims 1-5, 7, 10, 12-16 And 18 On Buchanan Is Overcome**

Buchanan has a mountable, peripherally serrated disk member, acutely angled, integrally formed auxiliary cutting means "bent slightly out of the plane of the blade", corresponding voids, flat sides, unserrated and rectangular and single front cutting edge.

Buchanan further shows the orientation of these auxiliary cutting means as radial.

Positioning of the auxiliary cutting means in a longitudinal orientation is parallel to radii or at 90 degree angles to the direction of the cut.

**Distinguishing Physical Structures**

The above claims rejected by the last O.A. are replaced by new claims 21-24, 26, 29, 31-34 and 36 and applicant requests reconsideration of the rejection for the following reasons:

(1) Base claims, 21 and 31 with dependent claims presently define novel physical structure patentable over Buchanan. (2) The auxiliary cutting means are in their longitudinal orientation largely parallel to the cutting direction of the disk member and not at right angles to the cutting direction, as under Buchanan. (3) Auxiliary cutting means of the present invention are "in substantial axial extension", distinguishing over Buchanan which are: "bent slightly out of the plane of the blade" (col. 3, line 25-27).

(4) The unsevered angular juncture of the auxiliary cutting means of the present invention

has a substantially parallel longitudinal orientation with respect to imaginary lines drawn into the cutting direction of the disk member, additionally distinguishing over Buchanan, where the orientation of the juncture is radial and the relation to the disk member cutting direction, therefore again at right angle.

**Additional Crucial Structural Distinction Over Buchanan**

(5) The "corresponding voids" of the auxiliary cutting means are placed in a radially outside position with respect to the cutting means which "extend radially and conterminously from the direction of said center aperture position". This is a significant difference over Buchanan, where "...plurality of radially disposed openings 32, each of which includes a cutting edge 34. Each of cutting edges 34 is also pitched slightly in advance of a radius line" (col. 2, lines 45-49).

The Buchanan openings lead the cutting elements in the direction of the cut. Applicant's U.S. Patent Document 5,361,570 (1994) has openings in a radially interior position with respect to the auxiliary cutting means, which extend radially inward and conterminously from the disk periphery and it is a stated object of the present invention to presently correct this defect and to further eliminate the serious problems associated with this configuration. The Buchanan disclosure, however, reveals a physical configuration akin to the old ...570 disclosure. Sticky cutting debris could accumulate against the (forward pitched) cutting elements, obstruct the openings and produce hazardous blade imbalance, whereas the configuration of the present invention successfully overcomes that problem.

(6) Worth noting is also the light duty "plastic-reinforced nylon cloth" material specified by Buchanan (col. 3, lines 74-75 and col. 4, lines 1-2) which stands in stark contrast to the heat treated steel alloy designation of the present invention. Indeed, Buchanan's objective is to: "provide a cutting blade for a rotary lawn mower in which the cutting teeth are sufficiently weak that they will break off before cutting high density material" (col. 1, lines 36-39). This objective is contrary to objectives of the present invention where cutting efficiency, strength, resistance and long term durability under arduous field conditions are extremely important. The longitudinal orientation of the auxiliary cutting means, parallel to the cutting direction, serves to additionally strengthen - not weaken them. Auxiliary cutting means of the present invention are specifically designed to successfully resist high density material such as wood, and even stone or metals. The commercially produced blade of the present invention is further fully compliant with applicable industry standard 'ANSI B 175.3-1997 - Power Tools -Grass Trimmers and Brush Cutters'. Testing under the standard includes high speed impact with a steel rod of substantial diameter. It may be further pointed out that gasoline powered brush cutter blades reach speeds in excess of 9 000 RPM. The Buchanan device could not survive such applications - nor was it ever intended to do so by its inventor. Lawn mower blades turn at relatively low speeds, only fractionally that of brush cutter blades. Soft lawn grasses and interspersed light weeds are not comparable in cutting resistance to small tree trunks, branching, heavy vines and the like. The Buchanan application is inoperative for brush cutting and shredding, where this light duty device would shortly disintegrate - as it was indeed designed to do . . .

(7) The applicant's invention **solves a demonstrably different problem** than the reference and such different problem is recited in the claims. *In re Wright, 6 USPQ 2<sup>nd</sup> 1959 (1988).*

(8) The results achieved by the present invention are further **new, unexpected, superior, unsuggested, unusual and surprising**. (9) The commercially produced blade (The Master Shredder™ Brush Blade) has achieved considerable **commercial success** (see enclosed documentation) and (10) been given both regional and **national news media recognition**. CBS affiliate station KOIN TV 6000 (Portland, OR) independently field tested the Master Shredder blade, as a consumer service. The resulting news story gave an extremely favorable review for this new product (particularly for its unexpected ability to efficiently shred large growths of the ubiquitous blackberry vines) which was broadcast during prime news time on July 9<sup>th</sup>, 1998 by KOIN TV, FOX 49 and over PRIMESTAR to a national audience ( video tape available for review). Additional print media recognition came with a September 30, 1998 article in 'THE REFLECTOR', a Clark County, WA newspaper (copy enclosed).

(11) Undesirable **Recognition** came **from a competitor**, with the publication of **US Patent 5,875,700**, granted to the owner of a local manufacturing firm. The applicant had earlier contracted with this firm to commercially produce blades. There was a complete failure by the firm to produce blades, but the owner of the firm instead committed 'Fraud on the PTO' by falsely claiming to be the inventor (having become privy to the improvements), and is presently marketing blades under the trade name 'Nu Tech' (see enclosure).

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**Rejection Of Claims 1-5, 7, 11-16 And 18 On Haas Is Overcome**

Haas discloses a disk blade with down-turned peripheral serrations and integrally formed auxiliary downward and forward angled, serrated cutting means with corresponding voids disposed in front of the cutting means.

The auxiliary cutting means do not have even, flat sides since there is a substantial obstructing serrated flap, bent forward at right angle into the cutting direction.

Haas further discloses the longitudinal orientation of all auxiliary cutting means as once again radial and thus at right angle to the cutting direction.

**Distinguishing Physical Structures**

The above cited and rejected claims correspond to new claims **21-24, 26, 30-34 and 36**.

The new claims have been rewritten to define patentably over Haas and applicant requests reconsideration of the rejection for the following reasons:

- (1) Base claims **21 and 31** recite novel physical features distinguishing over Haas.
- (2) Longitudinal auxiliary cutting means orientation is directly into the cutting direction vs. right angled, as disclosed on Haas and this profoundly impacts efficiency and durability.
- (3) The base claims further recite the corresponding void out of harm's way radially outward of the auxiliary cutting means vs. the location of the voids pivotably forward of the auxiliary cutting means as disclosed on Haas.
- (4) The base claims recite "structures having predetermined, unobstructed and even, bilateral surface configurations", for the auxiliary cutting means, distinguishing over Haas where a prominent, obstructing, right angle bend crests the auxiliary cutting means: ". . . the

bend 33 is approximately a right angle bend and positions the uppermost edge 34 rotatively rearward of the bend 33 . . ." (col. 4, lines 54-57). This forms an obstructing angular recess.

(5) The base claims further recite "a circular disk member . . . with serrated cutting elements disposed in a direction of rotation. . .", whereas Haas discloses ". . . upstanding generally triangular segments defined by angularly up-turned peripheral portions of the disk. . ." (col.5, lines 21-23). (6) The present invention has no up-turned peripheral cutting segments, which are contraindicated for effective radial blade cutting of tree trunks, branching, etc. due to an obvious blocking action of such cutting segments.

(7) Haas, discloses the structure for grass mulching in a downward orientation - not radially.

(8) The base claims of the present invention recite a serrated disk with auxiliary, axial cutting means, whereas the Haas disclosure further includes an auxiliary, mounted, bar type cutting means : ". . . In this arrangement, the cutting edge of the mower blade 12 is disposed slightly below the lower surface of the mulcher attachment 20. . ." (col.3, lines 32-34).

(9)The present invention has no awkward bar type auxiliary cutting means, thereby **omitting an element** without loss of capability.

(10)The brush cutting and shredding blade of the present invention **solves a different problem** than the Haas grass mulching blade and such different problem is recited in the claims.*In re Wright, 6 USPQ 2<sup>nd</sup> 1959 (1988)*. The Haas disclosure has no utility for high speed brush cutting and shredding and is totally inappropriate for this application.

(11) The present invention **solves a long-felt, long unsolved need** to effectively shred *in situ* with an effective blade attachment for hand held, high speed brush cutters to be used on

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various weeds, brush, including vines and to also saw cut branching and small trees, etc. This unique capability saves time and labor and contributes considerably to energy savings as debris hauling to often distant landfills can be largely eliminated. Burning and herbicide application can also be reduced through the present invention. Shredded plants can be left on the ground as mulch to conserve moisture, retard weed growth and to improve soil condition, thereby contributing positively toward maintaining the environment.

(12) **Competitive recognition** has been attracted, already described above, by a competitor fraudulently claiming the invention as his own and independently marketing the product.

(13) The invention has achieved **national news media attention** through an independently conducted field trial and subsequent broadcasting of the very favorable results.

(14) The invention is being **commercially produced** and is achieving growing acceptance and recognition within the outdoor power equipment industry and with **many satisfied consumers.**

#### **Rejection Of Claims 1-4, 10, 12-15 And 18-20 On Marvin Is Overcome**

Marvin discloses a mountable, peripherally serrated disk blade with auxiliary cutting means disposed bilaterally on the disk with cutting edges acutely angled from the disk, wherein the auxiliary cutting means have flat sides and are replaceable.

Marvin shows auxiliary cutting means to be only minimally extensive in axial directions. The individual cutting means consist of largely flat strips, mounted flush against the disk planar on opposite sides but with a cutting edge only marginally distanced from the planar.

**Distinguishing Physical Structures**

Rejected claims correspond to new claims **21-24, 29, 31-33** and **36,37**, to define patentably over Marvin and applicant requests reconsideration for the following reasons:

(1) Base claims **21** and **31** recite "...auxiliary cutting means in substantial axial extension, as seen from a disk face view and also as seen from a disk edge view..."

This prominent physical feature is entirely absent under Marvin, where "...each of the planer blades 6 is tapered . . . from a width substantially equal to the peripheral tooth set width A to a slightly greater width C . ." (col.5, lines 51-56) and where also, "...These factors in combination, reduce the overall width of the kerf, the heating of the saw blade and the power to turn the saw. . ." (col.3, lines 15-18). The distinction of the present invention over Marvin in this respect is pronounced. Additionally, the objective of the present invention is to have auxiliary cutting means with maximum axial cutting capability, whereas the object of the Marvin disclosure is to clean a kerf with only minimal cutting and thus is the opposite. The applicant's blade functions very aggressively in axial directions , whereas Marvin does not really cut axially at all, but the cutting application is instead still radial, stemming from a three layered cutting means sandwich put together to merely protrude slightly beyond the center blade kerf in a lateral direction, while the cutting direction of the blade sandwich is still radial. Planer blades do not move in axial direction.

(2) Base claims **21** , **31** further recite "auxiliary cutting means disposed below said disk. . .", thus further distinguishing over Marvin's disclosure of a multiplicity of auxiliary cutting means disposed on both sides of the disk (fig. 2-4).

(3) Base claims **21** and **31** further recite "said auxiliary cutting means including structures

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having predetermined, unobstructed and even, bilateral surface configurations . . .", further distinguishing over Marvin, where each auxiliary cutting means has only a single lateral surface configuration due to flush mounting against the disk planar on each side of the disk.

(4) Base claims 21 and 31 further recite ". . . even, bilateral surface configurations . . . and inclined cutting edges having an orientation in longitude substantially parallel to imaginary lines drawn directly into the rotation of said disk", still further distinguishing over Marvin where ". . . allochiral, mated pairs of planer blades are secured to opposite faces of the circular saw . . ." (col.4, lines 27-28) with an arcuate rather than even configuration and further lacking bilaterality, longitudinal parallel cutting orientation and having a radial cutting edge, instead of an axial one.

(5) Base claim 31 further recites "said auxiliary cutting means including mounting means to receive individual, replaceable cutting elements . . .", distinguishing by itself over Marvin, as described in the last O.A.: ". . . the auxiliary cutting means have flat sides and are replaceable and provide a ramp on angled surface 11". Thus on the present invention only 'mounting means' for replaceable *cutting elements* are provisioned, whereas on Marvin the *auxiliary cutting means* themselves are replaceable. (6) Moreover, the auxiliary cutting means of the present invention are differentiated from Marvin by a completely different structure with even, unobstructed, bilateral sides, in substantial axial extension from the disk planar, with a longitudinal orientation directly into the pivotal direction of the disk.

(7) The present invention has excellent performance with only a small number of cutting elements, **omitting the many elements** disclosed by Marvin, **without loss of performance**.

The reference to "a ramp on angled surface 11" in the last O.A. is puzzling to applicant, since the only text citation of 11 found, relates: "Turning now to Figs. 1 and 3, each of the planer blade bodies is bounded by a nonplaner [sic] inner face 18 and a plane outer face 11. These faces 18 and 11 are bounded by a concave inner margin . . ." (col.4, lines 65-69). Nor is, unfortunately, close scrutiny of the drawings any more helpful on the matter. The Marvin disclosure is of a planer saw. Planer saws and brush cutting blades share relatively little in structural similarity and even less in functional objectives. No practical, competent person would ever interchange such different blades. **(8) Applicant's invention solves a different problem than the reference** and such different problem is recited in the claims. *In re Wright, 6 USPQ 2<sup>nd</sup> 1959 (1988)*.

- (9) The present invention has achieved commercial success** (see enclosure).
- (10) The present invention has been independently evaluated** and received national news media recognition for being a highly effective, novel brush control tool (video available).
- (11) The present invention has been recognized by a competitor and stolen and copied.**
- (12) The present invention has received accolades from many satisfied consumers.**
- (13) The present invention solves an important, previously unsolved need** to shred efficiently on site, thereby contributing positively to environmental maintenance. It saves energy and curtails pollution by reducing customary burning, land- filling, herbicide spraying, etc. and can be used to improve the quality of the soil through mulching.
- (14) The results achieved by the present invention are new, unexpected, superior and advance a crowded art** a small but significant step forward.

**The Rejection Of Claims 1-7 And 10-18 On Rider Is Overcome**

Rider discloses a mountable disk blade having peripheral cutting means, wherein auxiliary cutting means are incorporated into the peripheral cutting means and rise at acute angle from both sides of the disk planar and wherein the auxiliary cutting means have one flat side and one angular side and corresponding voids in front and wherein the auxiliary cutting means have a base line angular juncture oriented at largely 45 degrees from radial lines.

Rider further discloses the auxiliary cutting means extending only minimally from the disk planar, wherein the maximal extension is approximately the cross-sectional dimension of the disk material. Rider further shows a great multiplicity of auxiliary cutting means; incorporating one into each of numerous individual, peripheral tooth structures.

**Distinguishing Physical Structures**

The above claims rejected by the last O.A. are replaced by new claims **21-24, 26**, and **29-35**, rewritten to define patentably over Rider and applicant requests reconsideration of the rejection for the following reasons: (1) Base claims **21** and **31**, with their dependent claims recite novel physical structure distinguishing over Rider.

- (2) The auxiliary cutting means of the present invention are disposed only on the underside of the disk planar, whereas Rider discloses auxiliary cutting means on both sides ". . .the blades being alternately bent to opposite sides of the saw. . ." (col. 1, lines 38-40).
- (3) The auxiliary cutting means of the present invention have ". . .even, bilateral surface configurations. . .", whereas Rider discloses an angularity on one side ". . .and beveled off on their inner faces. . ." (col. 1, line 39).

(4) Auxiliary cutting means of the present invention are "in substantial axial extension", whereas reference to drawings on Rider discloses a minimal extension for the auxiliary cutting elements (Fig. 2 at 12) only about the same thickness as the disk material itself. Further extension would be contra-indicated for the Rider planer blade, since a wider kerf would waste wood, increase power requirements to run the blade and also cause the blade to run at higher temperature. The present invention has no such strictures, quite the contrary; maximum radial extension of the auxiliary cutting means is very desirable.

(5) Auxiliary cutting means of the present invention are ". . .extended radially outward of said center position. . .", whereas Rider discloses auxiliary cutting means facing the disk rotational direction at a sharp angle (Fig. 2).

(6) Auxiliary cutting means of the present invention have ". . .an orientation in longitude substantially parallel to imaginary lines drawn directly into the direction of rotation of said disk. . .", whereas Rider discloses ". . .these cutting edges of the blades being arranged at substantially forty-five degrees to a radial line of the saw. . ." (col.1, lines 41-43).

(7) Auxiliary cutting means of the present invention include ". . .inclined cutting edges. . ." in a longitudinal orientation, whereas Rider discloses cutting edges in a longitudinal orientation substantially nearer radial lines, than lines drawn directly into the cutting direction (Fig. 1).

(8) Auxiliary cutting means of the present invention have corresponding voids radially outward

of the base line angular junctures, thereby shielding the voids from debris, whereas Rider has corresponding voids directly in front of the auxiliary cutting means ". . . in substantial

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alignment with the gaps between adjacent teeth are stamped from the saw planing-blades or bits 12, blades being alternately bent to opposite sides. . ." (col.1, lines 35-39, also Fig. 2) .

The applicant is somewhat perplexed by the O.A. wording: " Forward and rearward voids are disposed on either side of the and [sic] auxiliary cutting means". Would the O.A. reference here be to the minute parallel, rectangular slits positioned laterally of the auxiliary cutting elements on Rider " At each side of each blade 12 slots 13 are formed which admit the blades being easily set." (col.1, lines 46-48) ? (9) In that case, the voids certainly are not ". . .corresponding voids. . .positioned radially outward of the unsevered junctures. . .", but instead have a different structure to serve the different purpose of tooth setting.

(10) Auxiliary cutting means of the present invention are a substantial distance radially inward from the peripheral cutting means in order to allow unobstructed radial cutting with the saw blade portion, thus distinguishing over Rider, where the auxiliary cutting means are actually incorporated into the gullet structures of the peripheral cutting teeth:" At the root of each tooth 11. . ." (col.1, lines 34-35 and also Fig. 1 at 14), where "root" indicates "gullet".

Rider discloses a planer saw, filed in 1907 and predates the present by most of this century. Industry was still largely in steam then and no high speed, gas-engine brush cutter existed.

(11) Applicant's invention **solves a different problem than the reference**, and such different problem is recited in the claims. *In re Wright 6 USPQ 2<sup>nd</sup> 1959 (1988)*. Planer blades are not in successful commercial use as brush cutting and shredding blades, because the structures are by necessity so very different. Form not only follows function, but form also restricts function, to re-coin the old *Bauhaus* dictum.

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(12) The present invention achieves **results that are new, unexpected, superior and advance a crowded art** a small, yet significant step. It allows for efficient, on-site shredding of unwanted vegetation, while still retaining a very effective ability to conventionally saw cut small trees, branching and heavy vines. It contributes positively to environmental maintenance by reducing the need for land-filling, burning, or herbicide spraying. (13) It thus **saves energy and reduces pollution**. Shredded debris can often be left on the ground to conserve moisture, retard weed growth and to improve soil condition.

(14) The present invention has **received national media recognition and is a commercial success**, with glowing accolades from many satisfied users.(15) **A competitor has both recognized and stolen the invention** and committed 'Fraud on the PTO', by falsely holding himself out to be the inventor and who was actually granted U.S. Patent **5,875,700** (1999).

**Claims 8 And 9 Overcome Rejection Under 35 U.S.C. 112, 2<sup>nd</sup> Paragraph**

Claims **8** and **9**, termed allowable within the O.A., if rewritten to more clearly define, particularly point out and distinctly claim the subject matter of the present invention, have been appropriately rewritten as new claims **27** and **28** and include further all the limitations of new base claim **21**.

**Non Applied Reference Mc Robert Et Al**

Applicant has reviewed U.S. Patent 3,521,684 and finds that this reference does not show the present invention nor does it render it obvious.

**Dependent Claims Are A Fortiori Patentable Over Buchanan, Haas, Marvin And Rider**

New dependent claims **22** to **30** and **32** to **37**, incorporate all the subject matter of the base claims **21** and **31** and add additional subject matter, which makes them a fortiori and independently patentable over these references.

**Claim 22 additionally recites**

"auxiliary cutting means three or fewer in number, symmetrically, equiangularly circularly disposed. . ." which is alien to any of the cited references, where Buchanan shows eight, Haas at least six (seven with the bar), Marvin an unknown precise number, but likely twenty four (four per quarter section side) and Rider a multiplicity (one for every peripheral tooth!). To the elements of the base claim is therefore added a numerical restriction and a further more specific recitation of elements which produce results alien to any recited reference, none of which can benefit by "each of said auxiliary cutting means following in the path of the preceding one during rapid (9,000 plus RPM vs. the relatively slow lawn mower or planer blades) rotation, wherein the actual cutting method is still radial and not axial, as it is with the present invention.

Also, the generous open spaces provided between the very few auxiliary cutting elements on just one disk planar, of the present invention, is very supportive of the expulsion of cutting debris, urged radially outward by strong centrifugal forces.

**Claim 23 additionally recites**

". . .unsevered angular juncture radially inclined inward from trailing end to leading end. . .", a physical feature lacking in any cited reference, particularly in the further context that the angular juncture is longitudinally oriented parallel to lines drawn into the pivotal direction of the circular disk and with an axial extension. This feature is not disclosed on Buchanan, Haas, Marvin or Rider.

**Claim 24 additionally recites ". . . predetermined, corresponding voids to said auxiliary**

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cutting means, positioned radially outward of the unsevered junctures whereby debris collection is precluded and whereby close quarter blade nesting is provided. . ." The present invention thus defines over Buchanan and Haas, wherein corresponding voids are positioned directly in front of the Auxiliary cutting means, thus leading into the rotational direction. The present invention claims a crucial structural advantage over cited references, because the critical positioning of the voids in a shielded position with respect to the auxiliary cutting means, prevents ingress and build up of cutting debris. It may also be noted that the cutting debris produced by brush cutting is of a different nature than that of grass or planer blades which produce only grass clippings or wood shavings, respectively. Often, brush debris or tailings have a great propensity to stick to and clog openings, which makes effective shielding of the voids on the brush blade that much more important.

Claim 25 additionally recites: ". . .substantial, semicircular forward and rear stress relief and debris clearing apertures, and having the forward apertures substantially larger than the rear aperture. . .", which is a structural feature not found on Buchanan or Haas, or Rider and provides enhanced stress relief on the crucial forward, or impact portion of the auxiliary cutting means and proportionately less on the trailing end where less is needed.

Claim 26 additionally recites: ". . .further including said auxiliary cutting means mountable as a separate unit, having a predetermined connecting planar structure embodiment between individual axial cutting element structures and having further a central

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aperture for mounting. . ." and all of this is alien to Buchanan and to Haas and to Rider.

Claim 27 and claim 28 represent the new claims for previously allowable claims 8 and 9, and are rewritten to overcome the previous rejection under 35 U.S.C. 112, 2<sup>nd</sup> paragraph and include all of the limitations of the base claim.

Claim 30 additionally recites: ". . .including said auxiliary cutting means and cutting edges having a substantial materials reserve at the rearward portion. . ." for gradual shifting of the cutting edges into this reserve to compensate for wear and tear and for repeated reclaiming. This structural detail and purpose is completely alien to Rider which recites an entirely different configuration.

Haas also discloses structure without specifically allowing for a 'materials reserve'. Dependent claims 32 to 36 additionally include all limitations of base claim 31, but parallel the above discussed claims 22 to 26 in other respects. Additional discussion would thus merely serve to duplicate the already stated novel subject matter cited above the references relied upon and is therefore presently omitted.

Claim 37 additionally recites: ". . .including each said replaceable cutting element with a ramp structure integral to and immediately preceding, but somewhat recessed from the maximal axial extension of the cutting edge of said cutting element. . .". The purpose is to not let each tooth 'bite' too deeply, the ramp serving as a cutting depth gauge, or stop. This drastically reduces a potentially hazardous phenomenon referred to as 'kick back', which is a torque reaction opposite to the blade rotational direction. The ramp referred to in Marvin by the office action has neither similar

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structure nor function, as best understood by applicant.

Accordingly, applicant submits that the dependent claims are a fortiorily patentable and should also be allowed.

### **Conclusion**

For the reasons stated above, applicant submits that the amended specification and claims are now in proper form, and that the submitted claims all define patentably over the prior art. The applicant therefore submits that this application is now in condition for allowance, which action he respectfully solicits.

Due to the identical subject matter disclosed in U.S. Patent Document 5,875,700 and the claims presented above, during the statutory one year time limit, applicant additionally makes request for Declaration Of Interference to be initiated by the Examiner.

### **Conditional Request For Constructive Assistance**

Applicant has amended the specification and claims of this application so that they are proper, definite, and define novel structure which also is unobvious. If, for any reason, this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. § 706.03(d) and § 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,

  
Eckhard Bernardy

-----Applicant Pro Se-----

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**Certificate Of Mailing:** I hereby certify that on the date below this document and referred attachments, will be deposited with the U.S. Postal Service as first class mail in an envelope addressed to :" AMENDMENTS, ASSISTANT COM-MISSIONER FOR PATENTS, WASHINGTON, DC 20231."

1999 Aug 20

Eckhard Bernardy  
Eckhard Bernardy, Applicant

# IMPROVEMENT & INTERIOR DECOR

## Brush blade invented by Brush Prairie man

Adversity to many people leads to frustration. For Eycck Bernardy, it led not to frustration but invention.

shreds, leaving a pile of usable mulch instead of a mound of trash. It took 20 prototypes and five

The blade cuts vines, blackberry canes, heavy brush, and saplings or branches up to three inches thick.

Although patented, Bernardy's blade has also attracted a dubious compliment that disturbs him: Someone is already manufacturing an inferior copy, based on one of his earlier prototypes.

"There's no talking to the guy. I may have to stop him legally," said Bernardy. "You come up with a good idea and somebody rips it off."

Bernardy has samples of his blades in the hands of major manufacturers for evaluation, he said.

His blades are being used on South American coffee and banana plantations and are currently being checked out in the Japanese market.

It isn't the first invention for Bernardy, a California State University-Los Angeles graduate who worked in the technical end of the auto industry.

He's also designed and built much of the equipment he uses to manufacture the blades in his workshop.

As for Simplar, his company name?

"I cooked it up," said Bernardy. "It's a play on 'simpler,' like it's certainly simpler to use the blade than anything else you could be doing to clear that brush."

*ENCLOSURE d)*



EYCK BERNARDY DEMONSTRATES the Simplar Master Shredder, a brush cutting and shredding blade that Bernardy invented. The blade cuts vines, blackberry canes, heavy brush, and saplings up to three inches thick.

Bernardy was trying to clear property he owns in Venerborg of an overgrowth of vines, saplings, and the bane of the north--wild blackberry bushes.

"I bought a cheap brushcutter and went at it," Bernardy recalls of his attempt five years ago.

"The blackberries stopped me cold."

He returned to the store, bought a metal brush cutting blade that "didn't work worth beans."

Returning again, he bought a saw-toothed blade which worked just fine cutting the canes but left him with a three-acre mountain of blackberry debris and the choice of burning it or hauling it away to the dump.

"I thought it was weird that in all this time, no one had come up with a true shredding blade," said the Brush Prairie man. "So I did."

Thus was born the Simplar Master Shredder, Bernardy's patented blade that cuts sand-

years of development--"the devil is in the details," Bernardy says --but his blades are now being marketed, mostly in area gar-

*I thought it was weird that in all this time, no one had come up with a true shredding blade. So, I did.*

Eycck Bernardy  
Inventor of the  
Simplar Master Shredder

tening and power equipment stores but also by mail order.

The blades have three razor-edged wing cutters that angle toward the ground from the blade's cutting face, giving the blade the ability to cut with its face as well as its edge.

It cuts and shreds rapidly, Bernardy said.

"The only thing it does poorly is rocks. It moves fast so it's easy to hit rocks or stumps or that old VW Beetle or whatever else is hiding under that blackberry tangle," jokes Bernardy, who then turns serious.

"Using this blade is not a time for daydreaming. You've got to pay attention to what you're doing. It's no time to be thinking about other things," he said.

Bernardy has sold hundreds of the blades and has never had a complaint or had to make one of his guaranteed refunds.

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